

|            |             |             |            |             |             |      |
|------------|-------------|-------------|------------|-------------|-------------|------|
| gttctgcgcg | ctctctcttt  | gcacgcgcag  | tgggttagac | ttgcctcttc  | ccattaggca  | 4560 |
| ctcgtgaagt | ctctctcctag | ctgtaaaacat | aaatatcatc | atcacagcat  | gagatgaaaa  | 4620 |
| ccatgtaaat | cagggaagcca | actgtgaaca  | ctgccacagc | cattccctca  | gtcttctctc  | 4680 |
| ttcaggtgat | ccaaaccccca | caggccggtg  | cccgcagaca | cgaggtgatc  | actttggagg  | 4740 |
| agaccacgtg | tgcgcgggtg  | caggtgtgtg  | tgcagtgtgc | agattctcag  | gcacatccag  | 4800 |
| ccagctctga | gtcctgtggcg | gtgactctgg  | aggacttgtc | ggatggcaca  | ctgcagctga  | 4860 |
| ttctgtgtgt | ggccaaatga  | gcacgctctc  | atccggcaga | gcctctccg   | gtttgcagca  | 4920 |
| gagaggaggc | cccacacgct  | gccctttggc  | ctccatccct | gtgtcctctc  | agttgtgagc  | 4980 |
| atcttagctt | agaccacaac  | aacacagctc  | cacctagaaa | acagatggaa  | gtctctgtgt  | 5040 |
| ctctatagaa | ccacacacac  | ctgagcctct  | aacaccaaca | gcaccatcct  | ctgtagcaga  | 5100 |
| caggctctcc | tcgccacagg  | ccgctgtcgt  | cggctcttat | gacactgtcc  | atccccaggt  | 5160 |
| gcacatgtgc | ttcagaagta  | cagctctgaa  | gagcagtggt | attgggagct  | gtgcacaggg  | 5220 |
| taccacagtg | ggcatatgat  | gcgcagacgc  | ctgactgggc | agaaatggcg  | ttagatatgg  | 5280 |
| ctactgtggc | acagtggggg  | ctgcacatgt  | tgcactctgc | ttctggccat  | taaaagtaga  | 5340 |
| ggggaccaaa | cagacaattc  | ggggacccta  | ggccccttcc | tggaggcacac | ttgcgccctt  | 5400 |
| ctctgtctct | atactcatc   | ctctctgtgt  | ggttccccct | ccaccagctg  | gccaccgcca  | 5460 |
| gcacctattc | gatggctata  | ggacaggttg  | ccctcatttc | catgcctagt  | aaacctctgt  | 5520 |
| cagttgtcag | ctcttcccaa  | aacaaagctc  | tggagtttct | ctgtggaagt  | tttaagtga   | 5580 |
| ggcatcagct | gtgacagatc  | gtctgccttt  | ccaggacatt | cttcttggtg  | ttccttacct  | 5640 |
| gaagctcgtg | tcgccacgct  | cttccgtgtc  | atctctcctc | ctctctctta  | atcaaaaggt  | 5700 |
| gaactctctg | ctcagctctg  | cagccttgct  | ccctctgggt | catatgttga  | agactgtgac  | 5760 |
| cagcacacgg | caggcagctc  | tgtctcgtgt  | tggaggagca | cgcgctgact  | cccgctggctc | 5820 |
| gtctgcgcc  | cactctctgc  | cttgttagtg  | gctcgtctgc | tcactctccg  | caggccgcga  | 5880 |
| cacttattgc | aggtcagtga  | tccttttgag  | tttgaatttc | acaaagcttt  | tttattcttc  | 5940 |
| gttctctaaa | ataataatcg  | ataatttaag  | gtttgtgaa  | tcctattatg  | agtgcaatta  | 6000 |
| gatagatgta | ggttctctgc  | tttgttgagc  | aatgacatgc | atttlatctc  | ttttctcttc  | 6060 |
| atcgccaaag | ttggagctct  | cttggtcggg  | gtttacacac | caggcagggc  | tgtctgccac  | 6120 |
| cttctgttgc | tgtagccctc  | gtggaggggg  | gtgectgggt | ggatcccaca  | ctggcagaga  | 6180 |
| tggggccacc | cttctctctc  | aggtcacatc  | ccacatggca | ttacacagag  | caggagctcac | 6240 |
| gtttgtctac | catggaagct  | tttatgtctt  | ccacatgttg | aggtctctac  | cttgtgaag   | 6300 |
| cgcaagaagc | acagcgtttc  | tgacacgac   | gcccactgac | gggactctgc  | cggtcttgtg  | 6360 |
| caggcagcac | cgacggtttc  | ccacagcagc  | gcagcgtcgc | gccgcgtcgc  | gcagactctat | 6420 |
| cccagccgac | tacaactcgt  | ctctgtctct  | tcacattttt | gatacgcaga  | tcactttgac  | 6480 |
| tttgtactca | gggtttctgc  | tttgtgaaat  | aaatgaagtt | ttcaaaagcg  | agtcggcctc  | 6540 |
| agaagccaaa | aactgaccag  | aagatggtgc  | tcaaaccttt | aaagactctt  | cttcactgtg  | 6600 |
| agggctcact | gtttctacca  | agcgtctgct  | tgtattaagg | cttttcgctc  | ctggaaactg  | 6660 |
| ctcagttcgt | agagctcttg  | atctgcaggt  | ggcaaaatgg | cactgaatat  | ccctctggca  | 6720 |
| gcagagaaaa | cccactgaaa  | gatctgtaga  | tggcacatgc | ttacagggca  | tttgttgcca  | 6780 |
| gtccagtgtg | tgagaatcaa  | gccccctaca  | agctcttgga | ttgggctctg  | gaagtgcagt  | 6840 |
| gaatgtctta | aaaatttctt  | ccaaaacaaa  | actagaataa | atttgtctgag | gcttataggg  | 6900 |
| aagtgtattt | aaaagaaaaa  | acaaaacaaa  | acataaaaaa | cttctcgaaa  | taagagaggg  | 6960 |
| tgtaaaattt | gaattccagt  | ctgcagatct  | ttcaagcact | gagaaattct  | ttctcaggtt  | 7020 |
| ttcttttttg | ggggagacag  | ggtcttgtct  | tgtcacccag | actggaacac  | agtggcacga  | 7080 |
| tttggtctca | ctccaacctc  | gtggggctca  | cgcacatctc | ctgccacagc  | ttcccaagta  | 7140 |
| cttggagaca | cagactgaag  | cca         |            |             |             | 7160 |

```
<210> 12686
<211> 7161
<212> DNA
<213> Homo sapiens
```

[illegible]

|             |             |             |            |             |            |      |
|-------------|-------------|-------------|------------|-------------|------------|------|
| ctccctcttt  | ctgagccctg  | tctctctctt  | ccaggatggc | agttattaaa  | acctactttg | 540  |
| caggtaaatt  | tgtgtataat  | cacataacct  | gtccagtaca | gagtggtttc  | tatgtgcaag | 600  |
| accacatggt  | aagcacctcg  | tgtatatatt  | ctcattttac | tctcacaaac  | tcctctcgag | 660  |
| catccgacga  | gtctggctag  | agatctcatg  | ctctttacca | ctagatgtga  | caaatatacc | 720  |
| ataggttata  | agattctcgg  | catctgttgg  | atgcttgcta | agtatgtggc  | atcgcccaca | 780  |
| ccccagccct  | gttactcttc  | agcctttggag | agccaaatct | tgtgtctttc  | ccagcacgtc | 840  |
| ttctcttatg  | cacttccacg  | atatagaatt  | ccatgaatgt | gaccagtgta  | aggagctctt | 900  |
| ccccacgcca  | gccttgtctg  | aggttctatg  | caagtggcag | cattcaggtc  | agttacctgt | 960  |
| tcagcatcat  | tctaggtagt  | actcggggcg  | tgaatctccc | ctccacaact  | tcgagctttg | 1020 |
| caacctaggc  | taaatctgct  | acaaaacctg  | tcctcggttg | ttctcatcta  | taaaatggga | 1080 |
| acagtttgtag | caactgcctc  | atagagattg  | gtgaaaaact | gaagggcttg  | gcatacaata | 1140 |
| gcacctctta  | agccgttaact | gtgatgtcta  | tgttatgtgc | tatactctac  | aaatctaaag | 1200 |
| tgcaggttta  | aaataaaata  | atatacaact  | agtttaaaga | tataccattt  | tttttttttt | 1260 |
| ttttttttga  | gcagagctct  | caactctgtca | cccgacctgg | atcgagcttg  | tcgcatctca | 1320 |
| gattcactga  | acctctccat  | gcgggtgtca  | agcaattctc | ctctgacttg  | ctctccaagt | 1380 |
| agcttgaatt  | acagggtgct  | cccacatctg  | tcgctataat | aaagtgtacc  | tttttttttt | 1440 |
| tttttttttt  | gagatggagt  | ctcactctgt  | ccaccaggtc | ggagtgcact  | gcgctgactt | 1500 |
| cggctcagtg  | caacctccgc  | ctccacagtt  | caaggcatte | ttctgcctta  | gctctccgag | 1560 |
| tactggtggc  | tacaggctgt  | caccaccaca  | cccgcttaat | ttttgtattt  | tttagtagag | 1620 |
| aggggggttc  | acactgttgg  | ccaggcttgg  | ctcaaaactc | tgacctcatg  | atcccgccac | 1680 |
| ctcgccctcc  | caaatgtctg  | ggattgtctg  | cgtagcccac | tgccgccacg  | caaatgtatc | 1740 |
| cactttttaa  | gaactataaa  | aaaaagaaaa  | ctactgccag | ttaaaactgt  | cttttttctc | 1800 |
| acttagaatt  | tctacgttat  | tctaagtctg  | gttttggaat | taattgcata  | gattttttat | 1860 |
| catgtcactc  | actctagtgt  | gcataactct  | aaagaaaaac | taaaaaaacat | tgtattaagg | 1920 |
| agaataccag  | ctctccagag  | tagtgttcaa  | tccagatgtt | caacaagaat  | gtttttccac | 1980 |
| acagtgttta  | ctctgccatc  | aagacacatt  | atgatggaa  | gcataataat  | agattcccat | 2040 |
| agaagatttt  | ggcaactctg  | tttggctctt  | tgagcgttat | gtaaaactag  | tctacttttg | 2100 |
| attctcgttt  | tgggaataaa  | gtctaacctt  | catacattac | ttctccctct  | ctaaacctat | 2160 |
| tgtgttccat  | gagttaaaaa  | ctgtgcacat  | tctcgttcta | gggggtttct  | tccaagcgtg | 2220 |
| tgagtgccat  | tctgcgaagt  | ttgatgtctt  | gacttttgat | ttgggttgct  | gcattgcaga | 2280 |
| ctgcactctg  | ctctccttag  | ccacagaagt  | cataaggttc | cttgactctc  | acttcagaga | 2340 |
| tgttaaaatg  | ttttttctag  | aatttatgaa  | ataatgatgc | ctgcagctat  | tattctcgag | 2400 |
| ttaagttaat  | aattgggtct  | tcgacaggya  | gatttgcctc | gaatctgata  | ctaattgaac | 2460 |
| tgtcactctc  | ggcccctcca  | ctctgatctg  | cccttcacag | ctctgtcctt  | tgtcattttg | 2520 |
| ttattatttt  | cttaaggccc  | ccagatctgt  | ataacgttgc | tgtcccctag  | aatgtggact | 2580 |
| cgctctcaag  | ctctgatctt  | cattgtcttt  | tctctcag   | ttctctgc    | ctattttctc | 2640 |
| tctattttac  | cagagaattt  | taccacacag  | ctctcccttc | tgtctccctc  | tctctcagg  | 2700 |
| tcccagccat  | tccggtgtct  | gtactgtctt  | gctcacttcc | gttttctcgg  | agcatctgac | 2760 |
| cacactgtat  | ccacggagac  | ctctaacagc  | tcagagacca | ctctccctct  | tgagctctgt | 2820 |
| ggggagctca  | tcaactccca  | ggcccagctc  | gcagctcacc | tggaaactga  | gcacccaaag | 2880 |
| gtgatgactc  | cggaacccca  | ggcccgacct  | tcacagatgt | cgccaggttg  | tcgtggccca | 2940 |
| ctcagctata  | tagaattgcta | atgcatgttt  | ctcaaggtct | ctctagaggt  | ggcctctgta | 3000 |
| tagtaccacg  | agatactctt  | ttgggatctt  | gtagagatgc | tctctgagtt  | ctttacaaaa | 3060 |
| cagaaacagaa | aattctagtc  | tcttggtggc  | cacatgggaa | gtggccctcta | ggttagagga | 3120 |
| gcctggaaaca | ataaattcca  | aaagaggaa   | agcttggttc | ctctccacag  | tgcatatcgt | 3180 |
| ctctgcctct  | gagaataacc  | gtgggtgtgt  | gtgagaactg | cgggaaacct  | cggaacagca | 3240 |
| ggaaacctgt  | gttgggcagc  | gaactcctgc  | agttaagtgt | cttggagagc  | gcctctgggc | 3300 |
| aggacacagt  | acacacttgc  | acacacttgc  | gcctctcacc | tttacctggg  | caaaaaaac  | 3360 |
| acctcttctt  | gatgtctcag  | ggctaagctg  | gatacagttt | ccctttgctt  | cccgatctct | 3420 |
| cttttactct  | tcttcccatc  | tcttccagag  | agggtgggca | gaaaagagaa  | ataaattcag | 3480 |
| ctgactccat  | ctgactgtaa  | tttgggtgtg  | gttgagagag | aaccataaaa  | tgatagggtt | 3540 |
| tttggctctg  | tgactagtta  | cgctgtccag  | tccagagata | gcatttata   | aaccagggtc | 3600 |
| ttacaggcct  | ctggggaaaca | gaggggaaat  | caggtaggca | ggactccgcg  | caacactctt | 3660 |
| ctgtcatatc  | accaaagggt  | gcctctcttt  | tctctttttt | gtatatattg  | gttcttgata | 3720 |
| atatgtctct  | tggggaaaaag | gtggggtcgg  | ggcgctcatt | tctaaaaaga  | aaagaaaaag | 3780 |
| aagcagattg  | aaaactacta  | ctctggatca  | tgttgtatgt | aacatcacag  | ttgatctctt | 3840 |
| ctctcttgta  | gcacggagaa  | gtactgggct  | ttggctctct | caactgttc   | gtctctctgc | 3900 |
| tcttcaactga | tcttcaagag  | caaggtgtct  | gtggctctct | gtttaaaaat  | ata        |      |

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| ggctgggtgag | ctgaatgaat  | gcgtggagtc  | acagttcacc  | cagttcttct  | cctaagctcg  | 4200 |
| gtcactgtgt  | ggcctcctgg  | gaaggctgtg  | agcctgcgag  | aggctccagag | aggctgcccc  | 4260 |
| gggcccacat  | gggcctctgtg | tggtaccaatc | ccattcccat  | gttccaggca  | tggagaccag  | 4320 |
| tggtcttcagt | ggcatctctc  | tcacatggca  | ccaccctctg  | cagtgctatc  | ccagacacagg | 4380 |
| aaagcccagat | gtgaaaaca   | gagccagtg   | tcgctgggtg  | tataatcata  | gagtcggcg   | 4440 |
| ggcccgagat  | ggcgtaactg  | gcaaaattat  | agcaatttag  | tgacacagta  | tttaaatgtg  | 4500 |
| ttgtctggct  | ttctctttgc  | atcgccagtg  | ggttagactt  | gcctcttccc  | attaggcaca  | 4560 |
| tgtaagtgtc  | ctcctcaggt  | gaaaacataa  | atatcatcat  | tacagcatga  | gatgaaaacc  | 4620 |
| atgtaaatcc  | gggagccaac  | tgtgaacact  | gccacagagc  | gcctcacggt  | ctttctcttt  | 4680 |
| caggtgatcc  | aaaccccaga  | gccgttggtc  | ccgacagagc  | aggtgatcac  | tttggaggag  | 4740 |
| accagccttg  | ccgggtctga  | gggtgtttgt  | acgttgccag  | attctcaggc  | atctcaggcc  | 4800 |
| agctctgagc  | tcgtggcggt  | gactgtggag  | gacttgcgtg  | atggcacagt  | gacgctgatc  | 4860 |
| tggtggtgag  | ccaaatgagc  | agcctttcat  | ccggcagagc  | cttctcgtgt  | ttgcagcaga  | 4920 |
| gaggaggccc  | cacagcttgc  | ccctttgcct  | ccatccccgt  | ctgtcctgag  | tggtgagcat  | 4980 |
| cttagcttag  | caccaacca   | cacagttcca  | cctagaaaa   | agatggaagc  | ttcgtgttgc  | 5040 |
| tcatagaaac  | aacagcatct  | gagccctcaa  | caccaacagc  | accatctctt  | gtagcagaca  | 5100 |
| ggcctccctc  | ccacacagcc  | gcgtgctgcg  | gcctctatga  | cactgtccat  | ccccacagta  | 5160 |
| catgtggctt  | cagaagttaga | gtctgaaaga  | gcagtggtgt  | gggagctggt  | gaccagggtta | 5220 |
| ccccaggagg  | catgatgtgc  | gcacagcgct  | cagtggtgag  | aatggcattg  | agatatggga  | 5280 |
| cttggccccc  | agtgggggct  | gcaaatgctg  | ccactgcctc  | tggtccattt  | aagtggagg   | 5340 |
| ggcaccaaca  | gacaaatcgg  | ggaccttagg  | ccccctctgt  | aggcacactt  | ggccctcttc  | 5400 |
| tcgggtctat  | catctctacc  | ttcgttgggg  | ttccccctcc  | accagctggc  | cacgccccagc | 5460 |
| acctatattg  | ttgctatagg  | acaggtagcc  | ctcatttcca  | tgccctgata  | ccccctgtca  | 5520 |
| gttgtcagct  | gttcccaaaa  | caaaagctctg | gagtttctgc  | tggaagtgtt  | taattgtgag  | 5580 |
| catcagctgc  | tagacagtg   | ctgcctttcc  | aggacattct  | ttcttggtatt | cttctacctga | 5640 |
| agcctagttc  | ccacagctct  | ttcgtgtcat  | cttcatcccc  | ttcctttaat  | caaaggctga  | 5700 |
| aatctctgct  | tgacctggca  | gcctggctcc  | ctctgggtca  | tttggtgcag  | actgtgacca  | 5760 |
| gcaccaggca  | ggcagctctg  | ttcgtctgtg  | gaggagcagc  | cgtgactgcc  | cgtggctctg  | 5820 |
| ctgcccgcga  | ctcctgctct  | tgtgagtggt  | ctgctgcctc  | acctcccgca  | gtgcgccaca  | 5880 |
| cttattgcag  | gtcagtgatc  | ctttggagtt  | tgaatttca   | aaagcttttt  | ttatcttcag  | 5940 |
| ttcttaaat   | ataactgat   | ataataaggt  | ttgtggaatc  | cattatgaag  | tgcaattaga  | 6000 |
| tagatgaagt  | ttctgcgctg  | ttggagagaa  | tgactagcat  | ttatctctct  | ttctctccat  | 6060 |
| gccaaagggt  | ggagtctgct  | ggtgcggtgt  | ttacacacca  | ggcaggcgctg | tttgccacct  | 6120 |
| tggttgccct  | gacccctgtg  | ggaggggagt  | gcctgggttg  | atcccaacct  | ggcagagatg  | 6180 |
| gggcccctcc  | ttccttccag  | gcacatctca  | cattgccaatg | tacagaggca  | ggagtccagt  | 6240 |
| ttggtcacca  | tggaagcttt  | tattgtctcc  | acatgggtcag | gtctcaccct  | gcttgaagcg  | 6300 |
| cagaaggcac  | agccttactg  | accagcacgc  | ccactgactg  | ctacttcccg  | ctttgttgca  | 6360 |
| ggcagccccc  | acggtttcca  | cagcgagcgc  | cagctccggc  | cagcctggga  | cagctcatcc  | 6420 |
| cagccgcatc  | caactctctc  | ttgtctctgt  | cacattttga  | tacgcagatc  | ttatctgctt  | 6480 |
| gtcaattagg  | gttctgccat  | ttctgaaata  | atgaagtttc  | taaagcagag  | ccgtccctcag | 6540 |
| aagcccaaaa  | ctgaccagaa  | gatgggtgct  | aaacctttaa  | gacttcatct  | tctgttgaag  | 6600 |
| ggctcactgt  | ttctaccagg  | gctgtgcctg  | tattaaggct  | tttccgtctc  | gggaactgtc  | 6660 |
| agctctggag  | agctcttgat  | ctgcaggtgg  | caaaatggca  | ccagaatatc  | ccttggcagc  | 6720 |
| agagaaaacc  | cactgaaaga  | tcgttagagt  | cagacatgct  | ctgtggatgg  | gttgcccaagt | 6780 |
| ccagtgtagt  | agaatccagc  | ccctcacaag  | ctgtgggatg  | gggcttgagg  | gttgcagtgta | 6840 |
| atgtctataa  | aattctctcc  | aaaaaacaac  | tagaaaaaat  | tgctgagggc  | ttatagggaa  | 6900 |
| gtgatttaaa  | aagaaaaaac  | aaacaacaac  | aaaaaaaact  | cttcgggaat  | aagagggctg  | 6960 |
| taaaatttga  | attccagtg   | cagatctctt  | caagcactga  | gaaattcttt  | ctcaggtttc  | 7020 |
| tttttttggt  | ggagacaggg  | ctttgtctgt  | tcacccagac  | tggaacacag  | tggtcagcatc | 7080 |
| ttggctcact  | gcaacctctg  | cgggtgcacg  | caatctctct  | gccacagctt  | cccaagtagc  | 7140 |
| tgggaccaca  | ggcgtagacc  | a           |             |             |             | 7160 |

<210> 12687

<211> 2432

<212> DNA

<213> Homo sapiens

<400> 12687

|             |             |            |            |            |            |     |
|-------------|-------------|------------|------------|------------|------------|-----|
| cttttgaggga | gaccacagctt | gccgggtcgc | aggtgtttgt | gacgttgcca | gattctcagg | 60  |
| catctcaggg  | cagctctgag  | ctcgtggcgg | tgactgtgga | ggacttgctg | gatggcacag | 120 |

|             |             |             |             |            |             |      |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| tgacgctgat  | ctgtgggtgag | gccaaatgag  | cagcctttca  | tccggcagag | ccttctctgc  | 180  |
| tttgagcag   | agaggaggcc  | ccacagcttg  | ccctttggcc  | tccatccctg | gctgtctctga | 240  |
| gtggtgagca  | tcttagcttta | gcaccaacca  | acacagctctc | acctagaaaa | cagatgggaag | 300  |
| cttcgttgtt  | ctcatagaaac | caacagcacc  | tgagccctca  | acaccaacag | cacctctctc  | 360  |
| tgtagcagac  | agggcctccct | ccccacaggg  | ccgtctgtgc  | ggcctctatg | acactgtcca  | 420  |
| tcccaagatg  | acatgtggct  | tcagaagtag  | agctctgaaag | agcagtggga | tgggagctgg  | 480  |
| tgaccagggt  | accccgagag  | gcatgatgtg  | ccgacagcgc  | tcagtgggca | gaatggcagt  | 540  |
| tagatatggg  | acttgggcca  | cagtgggggc  | tgcaaatgct  | gccactgcct | ctggccattt  | 600  |
| aaagtggagag | gggcaccaac  | agacaattcg  | gggaccttag  | gccctctctc | gaggcacact  | 660  |
| tggccctctc  | ctcggctacta | tcaatctacc  | ctctgtctgg  | gttccctctc | caccagtggt  | 720  |
| ccacgcccac  | cacctctattg | atggctatag  | gacaggtagc  | cctcatttcc | atgcctgata  | 780  |
| acccttgttc  | agttgtcagc  | tcttcccaaa  | acaaagctct  | ggagtttctg | ctgggaagtgt | 840  |
| ttaatgtgag  | gcacacagctg | ctagacagtg  | tctgcctttc  | caggacattc | ttcttgggtat | 900  |
| tccttacctg  | aagcctgggt  | cccacagctc  | ttccgtgtca  | tcttcatccc | cttctttaa   | 960  |
| tcaaaaggctg | aaatctctgc  | ctgacctggc  | agcctggctc  | cctctgggtc | atatggtgca  | 1020 |
| gactgtgacc  | agcaccaggc  | aggcagctct  | gtctgcgtgt  | ggaggagcag | ccgtgactgc  | 1080 |
| ccgtggctct  | gtcgcggccc  | actcctgtcc  | ttgtgagtgg  | ctgctgtctc | cactcccgcc  | 1140 |
| agggccgcac  | acttattgca  | ggtcagtgat  | cctttggagt  | ttgaatttca | caaatctttt  | 1200 |
| tttatcttca  | gttccataaa  | tataacttga  | taattaatgg  | tttgtggaat | ccatgatgaa  | 1260 |
| gtgcaattag  | atagatgtag  | gttctgtcgc  | tttggagaga  | atgactagca | tttatctctt  | 1320 |
| tttcttccca  | tgccaaaggt  | tgagtgctgc  | tgggtcgggt  | tttacacacc | agggcgggct  | 1380 |
| gtctgccacc  | tttgtgtgct  | tgacccctgt  | tggaggggag  | gcctgtgttg | gtatccacac  | 1440 |
| tggcagagat  | ggggccaccct | cttcttccca  | ggcacatctc  | acattggcca | gtacacaggc  | 1500 |
| aggagtccag  | tttgttcacc  | atgggaagctt | ttattgtctc  | acatgtgtca | gggtctcacc  | 1560 |
| tgcttgaagg  | gcagaaggca  | cagccttact  | gaccagcagc  | cccactgact | ggcatctgcc  | 1620 |
| ggctttgtgc  | agcagcgccc  | gacggtttcc  | acagcgagcg  | ccagctccgg | ccaggctggg  | 1680 |
| acagctctac  | ctgcagcgact | acacgtgctt  | ctggctcctg  | ccacattttg | atacgcagat  | 1740 |
| cacttgagct  | tgtaaatatg  | ggttctgcca  | ttctgaaata  | aatgaagtgt | ctaagcagaga | 1800 |
| gtcggcctca  | gaagccaaaa  | actgaccaga  | agatgggtgt  | caaaccttta | agactctctc  | 1860 |
| tccatgtgaa  | gggctcactg  | tttctaccaa  | ggctgtgctc  | gtattaaagg | ttttccgtcc  | 1920 |
| tgggaactgtg | cagctctggga | gagctcttga  | ctcgcaggtg  | gcataatggc | actgaatatc  | 1980 |
| cccttggcag  | cagagaaaaac | ccactgaaag  | atcgtagagt  | ggcacatgtg | tacaggggat  | 2040 |
| tgggtgcaag  | tccagtggtc  | gagaatccag  | ccctccacaa  | ggtgtgggat | ggggcttggg  | 2100 |
| agttgacag   | aatgtcatta  | aaatttcttc  | caaaacaaaa  | ctagaaaaaa | ttgctgaggg  | 2160 |
| cttataggga  | agtgtatttaa | aaagaaaaaa  | caaaacacaa  | caaaaaaa   | ttctcggaat  | 2220 |
| aaagagggtc  | gtaaattttg  | aattccagtg  | tcagatcctt  | tcaagcactg | agaaattctt  | 2280 |
| tctcaggttt  | cttttttttg  | gggagacagg  | gtcttgcctc  | gtcaccacga | ctggaacaca  | 2340 |
| gtggcagcat  | cttggctcac  | tgcaacctct  | gcgggtctac  | gcaatctctc | tgccacagct  | 2400 |
| tcccaagtag  | ctgggaccac  | agggctgagc  | ca          |            |             | 2432 |

<210> 12688  
 <211> 80  
 <212> DNA  
 <213> Homo sapiens

<400> 12688  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagaaaa aaaaaaataa aaaaagaaaa 60  
 agaaaagaaa aaaaaaatct 80

<210> 12689  
 <211> 6388  
 <212> DNA  
 <213> Homo sapiens

<400> 12689  
 ccggcaccct taccccgccc tcgcatgaa cgcctcgatg tccaggtgag tcccggggct 60  
 ggggctgtgc gcatgtttgt cttagcaacc acgcatcttc tgaccacgaa acagcttttt 120  
 cttgcagctt aatgagcagg cacagggtcc accctccccc caactctctt tgatcaagca 180  
 tcttctcacg tcccgcgctc cccaccccca ggtcagaatg gagaccacag gatcactgtc 240

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| cccatctctc  | caacagaagg  | attgcaaagc  | cttagcactc  | tgcctcctgc  | catgggctct  | 300  |
| ggcactgaag  | cattttgagg  | acagatgtct  | cccgaactag  | gatggagccg  | cgctcctgata | 360  |
| aaccctgtgt  | acattggaata | cacaacttct  | accttagaat  | atttgcaaca  | tatgatgggt  | 420  |
| ttatccagac  | ataaccccat  | ctaggtcaag  | gagagtactg  | aattaatctc  | gttttctgac  | 480  |
| catcgctaaa  | gataaataatc | ctaagtcaag  | gactgtctgt  | atatcacact  | gaagctaggg  | 540  |
| actgggagaa  | gtagaatttt  | tcttgaatgt  | atgtcaggag  | aggagacggt  | gaaaggggat  | 600  |
| ttctgtctca  | gggaccagct  | ctacctgaca  | gtggaaacct  | tgaggacaga  | ggaaagctgc  | 660  |
| ccacagccta  | agccctcttt  | ttcccagta   | tgcccgggce  | tctgacctc   | ctcccttttt  | 720  |
| gtgtgtttca  | tcccacttgc  | ttccagcacc  | agatgggcag  | cctgggtgtt  | ggtggggaga  | 780  |
| aggaagaggc  | attaagcatc  | tcccaaacct  | ggttttctag  | aagacacaa   | atgcctttct  | 840  |
| agtcctgaga  | cttgcctcca  | cggacatgcc  | tgtgccctta  | aggcagagag  | ccacctgttc  | 900  |
| ctctgtctgg  | tggcaggtat  | ccagcctgaa  | ccctctctgt  | gccatttgtt  | tctatccggc  | 960  |
| gcacagcctg  | gtctccagtc  | ggttctctcc  | tcacatgggt  | gctcctgccc  | accttggcct  | 1020 |
| gcccacctca  | gggatccccc  | accttgccat  | cgctcccccc  | atcgctcaag  | aggaaacggc  | 1080 |
| acccccctgc  | ctgagccctg  | cagtgagcgt  | gtaagtgaag  | ggcagcctgg  | atttcagctg  | 1140 |
| gaggggtgcg  | gtctgtggga  | gggtgtggca  | cactctgagc  | agcaaatgtc  | atgtactctt  | 1200 |
| ctctctttgt  | gtcactcagc  | aggcatcaca  | gcctccccag  | ccaggccctg  | cctcttctcc  | 1260 |
| gggaactta   | ccctctgacc  | ttctgggtcc  | ctgtctcttc  | aggggacatg  | tgcacttttc  | 1320 |
| ctcttattat  | ggaaagtgtt  | actgtcaggt  | ctcagagggt  | gaaagagaac  | gttcaaaaag  | 1380 |
| ttttaacacc  | cccagcttaag | atatatgaaa  | agggtaggcc  | cagaaaaggag | acagtgtttt  | 1440 |
| cttaaggaat  | tgtgtgtggc  | tgtgtggcga  | gctgagatga  | gcaccagggt  | ccttaccttg  | 1500 |
| cccggtgtacc | ataaagatgg  | caggaaagcca | aagtcaagtgc | tcctctggaga | tccecaagaga | 1560 |
| acccctctcc  | aacttgtgtt  | tgcccagatg  | gccccacact  | gtgtctctgt  | accgcgcgca  | 1620 |
| gcacctgcca  | gtctccagta  | gagctcatgt  | cagcaacccc  | accatgctct  | gttctctgtg  | 1680 |
| caggaaattg  | gagagttagt  | tttcaaaagaa | tctgtggctg  | agatcgttca  | aaggtgggaa  | 1740 |
| actacggtag  | gaaggtactc  | aggtgtttgag | tgacggcatg  | gggcccactg  | aattcagctc  | 1800 |
| caggcagccc  | ggcccctctc  | ccagagacaa  | tcagcgggtg  | ttcagtgaca  | ggtggggatt  | 1860 |
| gatgagttgt  | gtacactctg  | acatgctaac  | ctacaaccac  | tgtcctctcc  | agtgaaatcac | 1920 |
| cagtcaccgt  | gaaaaaggag  | gaggaaaaga  | agccccacct  | gaaagaagct  | ctgaatgcct  | 1980 |
| tcagtgtgtg  | tatgaaggag  | atgagggcca  | aggttgtggc  | tgagctgacc  | ctgaaggaaa  | 2040 |
| gtgcagccat  | taaccagatc  | cttgaagaaa  | aggtaaagac  | tgccctctcc  | ctccaggcca  | 2100 |
| gggagccgag  | gtcccttgcat | tgatggctcc  | gtgtgtgtct  | tgaccctctc  | tcceccagtg  | 2160 |
| gcacaacctg  | tctcagaaag  | aacaggccaa  | gtactacgag  | tgcccctcga  | aggagcgcca  | 2220 |
| gcttcaactg  | cagctctacc  | caacctgttc  | agcccgggac  | aactatgtaa  | gtgcacactc  | 2280 |
| tgggcagagg  | acgctcagac  | cccaggaaaca | gcctctgcac  | gaggaggaag  | ggtgaaggaa  | 2340 |
| agcaactgcc  | tttattttta  | tttattttat  | tttcttttat  | tttttgagac  | agagggctcac | 2400 |
| cctgtcaccc  | aggetggagt  | gcatgcagtg  | gcgcgatctc  | ggctcaactg  | agacctccgc  | 2460 |
| tccecggttc  | acacactatt  | cctgtctcag  | ctcccgaggt  | agctgggagc  | acaggggacct | 2520 |
| gccacacac   | ccggcttaatt | ttttgtattt  | ttagttaga   | cgggggttca  | ctgtgttaac  | 2580 |
| caggatggct  | tcgagctctc  | gacctcgtga  | tcgcgccacc  | tcggccctcc  | aaagcgctgg  | 2640 |
| gattacaggc  | gtgagccacc  | gcgcgccggc  | agcgactgca  | tttatagagg  | acctttaaga  | 2700 |
| tcaggagaaa  | gccctacttt  | ctctagaatt  | aaggaaaggt  | ttttaatctc  | caggaggtca  | 2760 |
| acaagctctg  | aggacggact  | tcagttgatg  | catttccctt  | tgaactggac  | gttccctctg  | 2820 |
| atttcataac  | acagggcacg  | gggttagctg  | tggtaggaag  | atttgtctcc  | agccactcct  | 2880 |
| aaccacaacc  | agggtcctaa  | gaccagtggt  | tgagcctcag  | ggggcgtgtc  | tctaagctcc  | 2940 |
| cggaacaacc  | gccaattttc  | gcatgcgtgt  | cttctctttg  | tttttctctg  | caggttaggc  | 3000 |
| ccacagcttg  | atcaaaactt  | caaaaggacc  | tgggaccttc  | cagaaaagat  | ctagaagcac  | 3060 |
| tgttctatgc  | agagaaacag  | aaaaacagag  | cttgaagggc  | attggaggga  | gactttgtca  | 3120 |
| caagaaggcc  | tggacacccg  | acctggaggg  | gaaacgcgtt  | tgtaggggag  | gaagggtctc  | 3180 |
| ctctgtctct  | tcacgggtct  | ccacggctgt  | gatctgaatt  | atctctccac  | actctccctg  | 3240 |
| agggatcgag  | agcagtaaa   | ggcaacgttc  | tgtcttctct  | ctgatctggg  | agccctctgag | 3300 |
| agccagcatg  | tcttctctcc  | cagcttacct  | cttctcttgg  | ctgtattttc  | cagggttaaga | 3360 |
| aaaagaaagat | gaagagagaa  | aagcagctgt  | ccagacacac  | gtccacagac  | caagctcagg  | 3420 |
| aggcagaggg  | tgctgtctgc  | ggcactggcc  | tcttctctgt  | cttttctctt  | tgtcacagcc  | 3480 |
| accctctccc  | atgctgtctc  | tgtctccctg  | atgggtcagg  | gcttctgctc  | cggattctgc  | 3540 |
| gggctgggtg  | tattaccctc  | ttctcgaggt  | ggcactctaa  | gaggtctctg  | gatgtgaagg  | 3600 |
| cattttccca  | ggcactctgc  | ttcagtggtg  | tgtgtaggat  | ttgatcccg   | gaactttgtca | 3660 |
| cttcaaaagg  | tagacaatct  | aattccattg  | aaaagtgaa   | catctacctg  | gaggggtta   | 3720 |
| ggaattagggt | tgaattgttc  | tttgaataac  | cttaggaag   | gcagcacatg  | agccctctgac | 3780 |
| atcccacctg  | tcagttggat  | caggggagcc  | cggttttctc  | tggatgtttc  | tttgggtgaa  | 3840 |
| caccagaaaa  | aattagtttg  | cttgggttta  | ggaggcactt  | tgtgtcaaaa  | ccatgtataa  | 3900 |

|             |            |             |             |            |             |      |
|-------------|------------|-------------|-------------|------------|-------------|------|
| aatctctata  | ttaccagaat | catgctagc   | acagaagat   | gtcacactg  | tgacgattat  | 3960 |
| tatttaatt   | taggtcacgc | ccccacttc   | atgctcactc  | caggacaagt | gtatcgctgc  | 4020 |
| ttgcagatg   | taaaagtgt  | ttaactcttc  | ttttctatc   | ctctccactc | ccctttcttc  | 4080 |
| ctctccctct  | ttcaactctc | ctccactatc  | ccttccctcc  | ccttccctct | ccctccctcc  | 4140 |
| ttttctctct  | ccctttctct | ttctctccct  | ctttttccct  | ctctctccct | ctctctccct  | 4200 |
| cccttccccc  | ccctcccttc | tttttccctc  | gtcttctct   | tcctccctcc | ctttctctct  | 4260 |
| ccctccctcc  | ctattcttct | gcctcccttc  | ctctctctct  | ccgtccctc  | cattatacat  | 4320 |
| aggagcgac   | atgagtgaa  | cccgtaacct  | ctacagaacc  | cgtgtctgg  | cacgctgttc  | 4380 |
| agcaggcatg  | caactctctc | gactgtatta  | ataccataaa  | ccaagaattt | caaaagcaaa  | 4440 |
| tgagagatg   | tcccaaaagt | taccagctgt  | aggaaaggag  | gggtgtctg  | tgagacactg  | 4500 |
| agccctcttc  | ttctccgatc | tgatctgggt  | ggactctcat  | cagtttgggc | gttgctctct  | 4560 |
| ctctgtgttc  | tgggtatttg | gaatgcagct  | ttcttagtct  | tgaagccctg | ggaagttaatg | 4620 |
| tcaggtctctc | gccaaataca | tcctgtgttc  | tccaaagcac  | atgtatcgcc | agggctgttc  | 4680 |
| ctcagctctc  | tcctctcaca | gagtaataca  | tgctcaactc  | ttcttgtatt | ttccccctag  | 4740 |
| gtgcctctgc  | ccaagaagc  | aaagaagcgc  | gtgttcagta  | ctgtccccc  | gagaagccct  | 4800 |
| gtgacagccc  | tgctctctcc | cacggcgaca  | tgtctggactc | cccgcccaat | ccctctgcag  | 4860 |
| ctttgtgctc  | acacgctgcc | ctctgtgcc   | cccatctgga  | gcaagccact | ccctctctcc  | 4920 |
| tcacacacaa  | acgaataacc | cggggccagc  | tggtcttcca  | ctctcgccgc | ttctctgtgg  | 4980 |
| ctaaagctgc  | agcctctccc | ttctggcgac  | tgggcagcca  | gcctccctcc | ctgtcccgcc  | 5040 |
| ccctcccccct | tgggtccatg | cccacagctc  | tgtctggctc  | tccccctctc | ttcccccgca  | 5100 |
| cgctccatgc  | ccacaggcc  | ctccccgtgc  | tacaggccca  | gcctctttct | ctgttcacca  | 5160 |
| agctgtccca  | ctaaagctcc | cccgaacctc  | gcaggctgtc  | acatgactca | ttgagttagt  | 5220 |
| atgattcaga  | aaaaaagaaa | aaaggagact  | ttatttgcta  | atatttgacc | acctctgact  | 5280 |
| gtctctgtaa  | gtggctggt  | acaacagcac  | ttacagtgtt  | gtagatgtaa | ccagttagct  | 5340 |
| atcttaagcg  | ttttttaaaa | atacacaata  | acaaacaaaa  | aaaaattctt | ataaagaaga  | 5400 |
| gaactgaaaa  | tgtgtgttgt | atctgtctgt  | taggtgtctg  | gggtgatgta | ctggggcaga  | 5460 |
| gggcacattct | ctctcttacc | ttcttgtcac  | tttgtctctc  | ctgtctctct | tcgcctctgc  | 5520 |
| cgctcgccgc  | agctctcccg | actccatctc  | cagctctgcc  | atttgtacat | ttctgtttac  | 5580 |
| ccagcccaag  | ttttcatcgt | ctgtctcaata | ccgtgggttc  | ttcttctctc | ttgtctccct  | 5640 |
| gccagctgtg  | agccatcac  | catgtgagaa  | gaactcttgg  | ctctgatttg | tgccaccagt  | 5700 |
| gtccctctcc  | ttagtgggcc | cgaactcgcc  | agccagcctg  | ttcagtgatt | aaagcggctc  | 5760 |
| cttgaatggt  | tttctcccca | accocccgat  | ttaaaaggac  | tcaaggtcgc | tgccactctc  | 5820 |
| tcagcagatg  | agctctgtgt | cctcccgctc  | ctgtccagtg  | gcgatctatc | cttcaacaat  | 5880 |
| ccagagctggc | agcggcgacc | agcccatctg  | ttctgctctc  | gtacactggg | tcctgtgcag  | 5940 |
| ccaacatctg  | caaagtctca | gagacctgtg  | tcctctcccc  | atacctacca | atgtctcttc  | 6000 |
| tgtgtgtatt  | tccttttgtt | tttatgtgtt  | ttggagcaat  | ttaaacctcc | agttgtttat  | 6060 |
| ttttcacaaa  | gaaaaataaa | tttcagcttg  | agaacctttt  | ctgagtgttt | ctttagtgtt  | 6120 |
| tttgttgtat  | caaacacact | gtttgttttc  | ctcccaaac   | ctgtgtttag | ctttgcaga   | 6180 |
| tatgcaaaag  | aagattgcga | ctgtccacag  | gggaagtgtc  | ggcatctctg | acacctctag  | 6240 |
| aaaactctgaa | cccgactctc | tgtctcaaat  | gtgactgggc  | cagtcagctg | ccatgaactga | 6300 |
| gctgcaaaag  | gggtaatcat | tttcacagct  | gattttaatg  | aatttgcgcg | ctggaatgac  | 6360 |
| attcagctcta | ttctctctat | accctatt    |             |            |             | 6388 |

```
<210> 12690
<211> 77
<212> DNA
<213> Homo sapiens
```

&lt;211&gt; 77

<212> DNA

<213> Homo sapiens

```
<400> 12690
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60
aaaaaaaaaa aaaaaaaa
```

aaaaaaaaaaaa aaaaaaaaaaaaaa aaaaaaaaaaaaaa aaaaaaaaaaaaaa aaaaaaaaaaaaaa aaaaaaaaaaaaaa

aaaaaaaaaaaa aaaaaaaa

60

77

```
<210> 12691
<211> 386
<212> DNA
<213> Homo sapiens
```

<211> 38

<212> DNA

<213> Homo sapiens

<400> 12691  
gagtttcagga ctagcctggg caacatagca agacctgac tcttttaaaaa aaaaaaaaaa 60

gaattcagga ctagcctggg caacatagca agacctgac tctttaaaaa aaaaaaaaaa

60



|             |             |             |             |             |            |      |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| gtgtgtgtgt  | gcattgtatgt | gaacacatgt  | gtgcttgtgt  | acattgaaaa  | gcccatgtcg | 540  |
| gagaagacat  | aaaggacaca  | tgtgagagac  | tgcattgtgt  | agcacatgta  | tgtgcacag  | 600  |
| ccatgcctgc  | aaaggtgcag  | agagcgtgta  | tgtgcgcatt  | catgtaagat  | aacagggtga | 660  |
| accattgtgt  | aaacgttaag  | atgtatgtgc  | acattgtaat  | gcattgcacg  | aagtgtgtcc | 720  |
| attgtctctg  | gtctctccag  | gcctctgtgt  | cgagggtccc  | aagctggacc  | tcttctctgt | 780  |
| tgtagcctcg  | tctatggggt  | gtgggggggtc | tcagtcactc  | agctctgccca | ggaaggcgag | 840  |
| gccagcacac  | aggccactgg  | gaacacagcc  | tgggactggt  | gggcatggtc  | tgatgtctct | 900  |
| gaggtgggag  | aggtgtctct  | tctgtctcgc  | aggggtggct  | ggggggcagg  | ctggcactga | 960  |
| gccacagaca  | tgttttctgt  | agggggcctt  | ggggagggga  | gtgaatcagg  | caaagcccg  | 1020 |
| gtgcttgagc  | tgcagggaca  | tgcagagggga | aagggggcca  | ggcagtgagg  | ggtgtctctg | 1080 |
| gccaggggtg  | gtcacagggga | catttgggtg  | gggagtcact  | atagggtcca  | tctgcacatg | 1140 |
| tttttctaaa  | tgcacagacc  | caaaaagcgc  | aacctctgac  | ttaactccata | gctgcaatgc | 1200 |
| gtgaggatgt  | gatggggcatg | ggcagggtct  | atccttagtct | ctgtgcctca  | gtttcccca  | 1260 |
| gggcccagggt | gttcaggggc  | agtgtatctc  | cggagatgac  | aagctgtcaa  | cctgtgcag  | 1320 |
| ccttagccag  | ccccgtgggc  | agcttcaccc  | tcacttccca  | tgcctgggac  | tttgtctgtg | 1380 |
| gcccatccca  | gtggtcccca  | ggtggagggt  | tctgggacct  | tggggcactg  | cccttttggg | 1440 |
| gaggtgtgtg  | ggggcagggt  | ctcttgactt  | cctgtccca   | tctcgctctg  | ggtgtgggtg | 1500 |
| actgtgtgta  | cttagaggag  | gaaggggagc  | cgcagcagag  | ctggaaatga  | cctgcgtgga | 1560 |
| tgtctcaact  | cttcatggag  | ctcccctgct  | acacctggat  | ggggacagtg  | ctggcagcag | 1620 |
| gtggctggga  | gtggagggaac | caggcagctt  | ggaacatgag  | gagtgggggc  | agccggcccg | 1680 |
| gacagggtgt  | gctgtcctgt  | ccgtggctcc  | agcctgacca  | ctcctctgct  | gtctctggcc | 1740 |
| atggagatcc  | caactactgc  | ctcatgtctg  | ggctctctcc  | gccccccgcg  | agcttcgcga | 1800 |
| acttttgact  | ggaggagctc  | caccagtgct  | ccctggagct  | gctcctgtctg | ggcccagcag | 1860 |
| ccccaccgcg  | ccaggaggcc  | ttccgcctct  | gtggctccgc  | catcccacct  | gcttctatct | 1920 |
| ctgcccgcgc  | ccatgtctgt  | attttctctc  | actcagacgc  | ctccagctcc  | ggccaggccc | 1980 |
| agggcttctg  | tgtctctta   | atccagagtg  | atggaggctg  | caggggcagg  | aggacaccac | 2040 |
| ggagcacacc  | gtgcatgccc  | acaggctccc  | ggcccacagg  | ggcgccaccc  | tccacagggc | 2100 |
| cccgctctcc  | tgtgggatgt  | cccttgaccg  | ccctgtcaat  | ctcaggacag  | ctgcaggact | 2160 |
| gggcatgcgg  | atgccttgga  | cctctcaagg  | caactggccc  | caacttccag  | tcttgcttag | 2220 |
| tcctgggaac  | tcacccctaa  | ccccaggctc  | aggtcaggga  | cagagccca   | cttggttgtg | 2280 |
| gaggggtctc  | tgtgtgacca  | gtgatgggga  | accacctgcc  | cgcttttggc  | cccaggcccc | 2340 |
| ctggccgaag  | ggaggctctt  | ctgtctctgt  | actgtccctc  | gctactcttc  | caccccacag | 2400 |
| ggaagctggg  | ccaggactcc  | tgccaggcag  | atgagttccg  | ctgtgacaac  | ggcagatgcc | 2460 |
| tgcgccggcc  | gtggcagtcg  | aaacagggtg  | acgagtggtg  | agacggctct  | gatgaggcca | 2520 |
| actgctcgcc  | ggccgcctcc  | gagcctccag  | gcagctctgt  | ccccgggggg  | accttcccat | 2580 |
| gcagccgggg  | gcgctccagc  | cgctgcctgc  | ctgtggagcg  | gcgctgtgac  | ggcttgcagg | 2640 |
| actgcggcga  | cggtccggat  | gaggggggct  | gccccgacct  | cgctgtcgcc  | ggccgtctgg | 2700 |
| gcagcttcta  | cggtctcttt  | gcctccccag  | acctgttcgg  | cgccgctcgc  | ggccctcag  | 2760 |
| accttcaact  | caagtggctg  | gtggacacac  | aggactccgc  | gggggtgtgt  | ctgcagctgg | 2820 |
| aactgcggct  | gggctatgac  | gactacgtgc  | aggtatacga  | gggcttgggc  | gagcgcgggg | 2880 |
| accgctcgct  | gcagacgctg  | tcttaccgca  | gcaaccaccg  | gcccgtgagc  | ctggaggccg | 2940 |
| cccaggcgcc  | cctcactgtg  | gcctaccacg  | cgcgcccgcc  | cgagcggcgg  | cacggcttca | 3000 |
| atgccactga  | ccaggtggaag | ggctatttgc  | tccccgtgga  | gcagccgtgc  | gggagcagta | 3060 |
| gtgagactga  | cgggggcagc  | ctggggcgacc | ctggctgctt  | ctgtgaccca  | cacgctgtgt | 3120 |
| atggctaggt  | gcatttgtgc  | agcgcccgag  | actgagcagg  | ctgccctgcc  | tggccggccc | 3180 |
| accagatccc  | ctgcggaggt  | ggcagtggtc  | tgtgtctaac  | gcctgcccag  | gatgacgaac | 3240 |
| accagaaaag  | ctgtcccagc  | ggcgccgacg  | agaagaactg  | cttctctctg  | cagcccgcca | 3300 |
| ccttccactg  | tgttaccac   | ctgtgcattc  | tcgagacgtg  | gcgctgtgac  | ggcaggaag  | 3360 |
| actgccagga  | cggcagcgat  | gagcatgggt  | gcctggccgc  | cggtccccgc  | aaggtcatca | 3420 |
| cggcgccgct  | catgtggcag  | ctgtgtgtgt  | gcctgctgct  | ggctcatcgct | ctgggctgcg | 3480 |
| ccttcaagct  | clactacatg  | cgcacgcagg  | aatacaggtg  | ggcgtgtgtg  | ccgcagccag | 3540 |
| gggacggggc  | ttcttcatca  | cccaggcttg  | ctgtccccgt  | agctgtgggt  | ttgcaaacgg | 3600 |
| gggctccggc  | tagctacatg  | gaggtgcgcc  | tgtgtgctgt  | tgggttccct  | atatcttggg | 3660 |
| gtgtcttggt  | ggaggggtct  | cctggaatcc  | tgttgttgtt  | cctgtcgcag  | gtcccgggca | 3720 |
| gccagtcctg  | gtcgccctcc  | gccactgctc  | tctagggctc  | tcgagaccca  | gatgacgcgc | 3780 |
| ctggagagct  | agttcgtgcg  | gcggggaggca | ccccatcctc  | atggctcagct | catcgccagc | 3840 |
| ggccctcatt  | cacccgtgga  | ggaacttctc  | gtctacagtg  | cgctccagggt | ggagcccccg | 3900 |
| agggcgtgag  | ggccctccgg  | ggccacttgg  | gacagtgtgc  | ggaggaggct  | ggtccagggg | 3960 |
| tcacagagac  | aggaaggcag  | gcctgcgcag  | ggtgacctgc  | ggggccatgt  | ccagggtggg | 4020 |
| gggggtggaca | aggtgtgtct  | tgggttctca  | ggtcccttgg  | gggtgtgtctg | tctctgtccc | 4080 |
| ctgagcagcc  | tgtctgcccc  | ctcagccgca  | tccccccgcc  | cctacctgtc  | tccacccacc | 4140 |



|             |             |            |            |             |             |      |
|-------------|-------------|------------|------------|-------------|-------------|------|
| agggcctctgt | gctgcagaat  | cttcgcacag | ccatgcggag | acagatgcgt  | cggcacgcct  | 4200 |
| cccgccggggg | gcctcccccg  | cccgccctgc | gcgcctctgt | gaacccggctc | tttaccggg   | 4260 |
| ccggggcgccg | ccgaggcgac  | atccaccatg | tgaccgcagc | agccctccctc | cgacagctgtg | 4320 |
| tgggcgcatgt | cttctccacg  | ctctctccag | ggggtgcgcc | cgacccctccc | gcaccgtctca | 4380 |
| tgccacacag  | cagcacccag  | ggggcccgag | acaggccccc | caatgtcccca | ggccgtgcac  | 4440 |
| cgagggtgttg | accttcacgg  | ccacctctgc | ctctgggctc | gcgagcaccca | gaagtgcagg  | 4500 |
| ccgtggacaa  | ggacagaaag  | gtctcggagg | agccatcggt | agacggcccca | gctctgcag   | 4560 |
| atgcacctgc  | ggagccctgc  | tcagcccgag | accgccacc  | ccaggtctcc  | actccgacga  | 4620 |
| gcacctctgc  | ccccccactg  | ccagagccac | tgggggctct | gaggaacccc  | gcgcccccct  | 4680 |
| gtgccccaat  | gctggaggcc  | agcgbatgat | aggccctgtt | cttctgttga  | ccgctgggct  | 4740 |
| ccgtgctgac  | cgccacagcc  | ccgctttgtt | acacgggaat | acacagcttat | ttctaccctg  | 4800 |
| ctctctgcct  | ctttcttatg  | gagaggccct | ccggggaccc | caagcgaggg  | gctggcccct  | 4860 |
| aagccagctg  | gtgcactctg  | tgggccggag | ctgtgggaat | gaacggcggg  | gggggaaga   | 4920 |
| gtggagtgtg  | gcggcgctgt  | cgagggtctg | attgtacaca | agaccctgtg  | ggttcaactt  | 4980 |
| ctctcccccc  | acttcattct  | gggaacccat | ttccagagaa | cgaggggacg  | agagcctttt  | 5040 |
| tgcttcaact  | gcctcgaagt  | ggcaacagct | gcccttagag | ctgggaagt   | tcatgagagt  | 5100 |
| ggggccgggc  | catggggcag  | ctgggtctca | tccttggtga | ctattttct   | caagctctac  | 5160 |
| ctctctctct  | tcagacaaag  | ccctctggag | actggggtgt | ggtaggtctt  | gccaacacct  | 5220 |
| catgcccctg  | cgccaggcag  | gcgcctttgc | ccctctgaa  | gttccaactt  | ctggggacc   | 5280 |
| gtggaaggcg  | tggggtgtgt  | gctctctgta | catgaagccc | ctggaattct  | ctgcaggcct  | 5340 |
| caaagccccc  | agagcatcgt  | gtctgtctgt | ttctggggac | agagaggccg  | agggacacaa  | 5400 |
| agcaatggcc  | acgtctgttc  | catctctatc | catgggctct | gtctccccac  | ctgtaagcca  | 5460 |
| gggtgagact  | gtgggctctg  | aagtcctgac | ctctaactgt | tggtgattta  | cgggaagaaa  | 5520 |
| gacaatccca  | gctctggagcc | ctctgagctc | ctctgggtgc | cgagctcaga  | cttgactcga  | 5580 |
| ggggcctcgg  | gtaggggcgg  | actgagctgc | taccctcact | tcgacatacc  | tttggggcag  | 5640 |
| ggggactctg  | ggtgccatgg  | taggggagcg | ctgtgtcaag | cagcaaaagc  | ccctaagtgc  | 5700 |
| aagagcctct  | tcaggggctc  | gcgaecggat | ctctctggcc | agcaacatgt  | gtgcaccac   | 5760 |
| cgaggtacgc  | ccagcccaat  | cccatctgtg | cccatcagcc | actccccata  | gcacgacgca  | 5820 |
| cagcagccgc  | ctgtttattt  | ataggccctt | ctaaagagag | ctacgagggc  | agtgctaaag  | 5880 |
| acaggaaaccc | agtcacaatt  | ttagggcttc | tcgaagaagg | ctctcagagc  | tcgtatcttt  | 5940 |
| cttctttttt  | ttccagaaaa  | aaacaaaaca | aaactttttt | gcgaaaaacac | ctctctaata  | 6000 |
| aaacacatgt  | aaacacgaac  | aaactctgtc | gtctctacaa | aaatctcaat  | gttgcttcga  | 6060 |
| gggcttgtct  | gtggcagcca  | cgaggggagc | tgggcgaggg | ccattctctc  | ctctctcggg  | 6120 |
| ggcgactctg  | gggtagacaa  | cgaaacacag | ctctcgccc  | cagtgltgta  | tggactctga  | 6180 |
| gacgacagac  | atggaccttg  | gggcctgacc | tctcgggata | ggggtgacc   | ccagctccgg  | 6240 |
| acacctcccc  | ttggggcagg  | gtctctcagg | agttgtctcg | tcgggtaccg  | tggttctgga  | 6300 |
| aactttgggt  | acatcttggg  | agagacatct | tggtggggcg | tgggccctct  | gttccccact  | 6360 |
| cagctgctag  | gcacacctct  | ttctgggtga | gcctctaaga | gggaggtctg  | gtctccaggc  | 6420 |
| cccgccccc   | tgtgtggggt  | gaactcgctg | tgcccgctgc | acctgtgagt  | ctgtgcacac  | 6480 |
| actttgggtt  | gcttctccag  | aaacactcca | gaagaataat | ggggcaccccc | ctgaaggatga | 6540 |
| tgatgcagcc  | gcaccacagc  | accatagggt | ctgagatgaa | gctgaagacc  | acgacggaag  | 6600 |
| cccagaagac  | caagtacgcc  | acggggatga | gaaggtctac | ctggggagag  | ggggcagcaa  | 6660 |
| acacagatgt  | tgacaggcct  | ccagctgtct | gtacccccga | ccctcggggg  | tcctggggaat | 6720 |
| ttctctccct  | tcctctggag  | ctgaggctcg | aaggggcaat | gcaccactta  | acccccctct  | 6780 |
| tgggcagacc  | caagctgtgt  | ggaggccaat | ctatgggtca | ggcgtttggc  | cagtttttgt  | 6840 |
| gaggtatctt  | caaatgtcca  | ggggcagaca | gctcacaca  | ggggttgctg  | gtggacttga  | 6900 |
| ggctctgact  | tgccctggag  | tcagtgattt | tttgtgtttt | acattttcag  | cgactgagca  | 6960 |
| ctttcccaat  | taaggattta  | tacacacatg | gggggctgtt | tttttagctc  | agagttatgt  | 7020 |
| ctttctgttt  | tgtgtgggct  | catgaaatcc | tgggcagctt | tgtagctctt  | aacgtttctt  | 7080 |
| gagtcctatt  | ttttttaaatt | tttttttttt | tttgagacag | gtgtctctct  | tgtaccacag  | 7140 |
| gttgaggatc  | tggtggcccta | gcacgctctc | ctgagcctct | aaactcccgg  | gctcaagcga  | 7200 |
| ttctcccaat  | ctagctctct  | aagttagctg | gaccacaggt | gcgcacaccc  | acacacggt   | 7260 |
| aaacctttta  | tttttaactt  | tttgacagca | ggaagtctgc | ttatgttgc   | caggtctgtc  | 7320 |
| ttcaactcct  | gggctccagc  | aaatctccga | ctctggcctc | ccaaagttgc  | ggaattagca  | 7380 |
| tgagccctct  | tgccacagtc  | tgagctcat  | tttgcctatc | tgtacaetgg  | gagcatctga  | 7440 |
| agctctgtcc  | tcactggggc  | ggaatgagga | atggctgctc | cagtgccac   | agagccctga  | 7500 |
| cgagggccca  | acactccaca  | aaagctgcga |            |             |             |      |



|             |            |            |            |            |             |      |
|-------------|------------|------------|------------|------------|-------------|------|
| cagcctccca  | agtagctggg | actacaggtg | cgtgccacca | tgcccggcta | atttttttgt  | 2940 |
| atttttagta  | gagacggggg | ttcacctgtg | tagccagtat | ggctctgata | tcctgacctc  | 3000 |
| gtgatccacc  | tgccctggcc | tcacaaaagt | gctgggatta | caggtgtgag | ctgctgccc   | 3060 |
| tgccttatga  | gtgtatgttt | ctgacccctc | ctcttgaagt | tgccctctgt | ggcttaagga  | 3120 |
| gggcctgaag  | gttcaggtaa | aaacttcagg | gtgaccttca | ctgggggtga | gggctggatc  | 3180 |
| ccagctggag  | cccaaaagac | cgtcagctgc | ccaagtccec | ctgtccatga | gagtcaccgc  | 3240 |
| agccctcccc  | tgggacaagc | aagcagacct | gagtccttga | gtctcttggt | ccgggacctct | 3300 |
| ttgccctcag  | ccttgagagg | tattctagc  | ttctctatgg | ttactgtcct | ccccagtttc  | 3360 |
| agggggcagca | ggtgggacct | gggtgccctg | gggataaccc | ctgtttctcc | cataacagcg  | 3420 |
| acaggcagga  | agggacggaa | gccccgcct  | ctcctggggg | gtgccctctg | aggaagagat  | 3480 |
| tggttctccac | acgctgaccc | ccccacaaac | catgccctgg | aggcagaaga | acccctgccc  | 3540 |

<210> 12695

<211> 1711

<212> DNA

<213> Homo sapiens

<400> 12695

|            |            |             |             |             |             |      |
|------------|------------|-------------|-------------|-------------|-------------|------|
| agttaatatg | tttcttatgg | gagctgtggt  | cttctccagg  | ggtagggagg  | ggagtttatt  | 60   |
| gaccacaaga | ccagggtagc | gggcagaaag  | caggggagga  | ggaggcttgg  | ggatgagggg  | 120  |
| tcctgtctga | gtgttttctg | tcctgggaac  | gggtcctctg  | cagagctccc  | tgccaccaca  | 180  |
| gatttggggc | ctggagactc | agaggctccc  | agctgccgcc  | ctgaggccct  | ggagcaaggt  | 240  |
| ggctcctcca | tgtctctctg | aactcagttg  | ctggagtggt  | agggcccttg  | gctgacctcg  | 300  |
| gtggatggg  | ccctccagca | ctgccttgga  | cctggttgct  | ccctggactt  | gacctgttag  | 360  |
| ggctccttgg | ggcgagggtg | gaaggccgaa  | aggaagcagt  | tgggcacaggc | ttccttggtc  | 420  |
| ccgggtgccg | tgccaggctg | cattcccaga  | accaggggca  | tggttttgga  | gggagctacc  | 480  |
| gggggacctc | cttcaggctg | acctggcagg  | acctggagga  | catgacagcc  | tgtgaggggt  | 540  |
| ctgagctagg | agccgcctcc | cctgcccagg  | agagagccca  | tttccaggat  | gctcttctga  | 600  |
| ccagggttga | gggagggtac | gagagcagct  | cagcttgggg  | ccccaggccc  | tgatgtgcta  | 660  |
| cttcccctca | ctcgatagct | tatgtccctc  | gccacccaag  | accagccgga  | aagctgctta  | 720  |
| gctgggggtg | gggctgggga | tgtgggttgg  | agagcctaaa  | ggatactagc  | ccgagaaggt  | 780  |
| ggaagcaggt | ctgtgtgagg | cataaatctg  | gagccagcct  | gccccgggct  | caaccccact  | 840  |
| tgtggacctc | aggcaagtga | ctgcttctct  | gtgcctcagt  | ttccttgttg  | agtgggccat  | 900  |
| ctgtaaatgt | atctgtgcat | aaggtgggtg  | tgccataaat  | gagttaatgt  | atgc aaagcc | 960  |
| cttggcccac | agccggcgca | gagcattgtg  | taagtgtctg  | caggcgtcat  | gatggagata  | 1020 |
| tcatgtctcc | tcttgttgat | tcaggattct  | gatgagatgg  | aggatggggc  | tggggttcaa  | 1080 |
| gattaaagcc | ttgaggcact | gtccagacct  | ccttttctgg  | gccctgttca  | cccttggtct  | 1140 |
| categgcccg | tagcaggtct | cccctctccc  | acctctgcag  | cgagagtggt  | caggagacctg | 1200 |
| cctgtctcac | gttcgtgtcc | tgccaggccca | tcgcctaccc  | tctaaggacc  | taggtgagtg  | 1260 |
| cgcacgcgcc | tgcccccctg | gctgggctga  | gggaggagga  | gggtgcttag  | gaggaggggt  | 1320 |
| ctgtgctcgg | atttgggtga | ggcgggtggg  | ccggtgggca  | ggcctagag   | gagggagctg  | 1380 |
| agaggagctt | ctgggtggaa | ggtggcagct  | ggggctctgc  | ctctggcccc  | cacttcccct  | 1440 |
| ccccctcagt | cttaacccac | atggggctct  | aggtgatgga  | aggaagtggg  | tctgggcggc  | 1500 |
| tggggaaggc | tcttgtccac | cgctgggcac  | ttgttccctc  | ccgcagtgac  | ccccctctgac | 1560 |
| tgctacgtga | ctctctggct | gcccacggcc  | tgacggccaca | ggctccacag  | acgcacggtc  | 1620 |
| aagaacagca | gtagccctgt | ctggaaccag  | agcttttca   | tcaggatcca  | caggcagctc  | 1680 |
| aaggtggggc | aggcatcagc | gctgactcta  | c           |             |             | 1711 |

<210> 12696

<211> 38771

<212> DNA

<213> Homo sapiens

<220>

<221> SITE

<222> (7892)

<223> n equals a,t,g, or c

<220>







<220>  
 <221> SITE  
 <222> (7930)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7931)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7932)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7933)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7934)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7935)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7936)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7937)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7938)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7939)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7940)  
 <223> n equals a,t,g, or c

<220>  
 <221> SITE  
 <222> (7941)  
 <223> n equals a,t,g, or c